

WHAT IS CLAIMED IS:

5            1.        A method for editing graphics, text and mathematical expressions in a file comprising:

                    entering expressions into a file;

                    marking a root-expression and copying it to a clipboard;

                    pasting the clipboard content to other locations via straight-link;

10            10 linking the pasted instance to the root-expression;

                    recording the locations of the root-expression and of the pasted instance into an ordered link-sequence.

                    2.        A method as in claim one, which further comprises the user selecting an expression and viewing the link-sequence associated with the expression.

15            15 3.        A method as in claim two, which further comprises the user selecting a particular linked instance, from the link-sequence, and locating it for examination.

                    4.        A method for editing graphic, text and mathematical expressions in a file comprising:

                    entering expressions into a file;

20            20 marking a root-expression and copying it to a clipboard;

                    pasting the clipboard content to other locations via one-way-link;

                    linking the pasted instance to the root-expression ;

                    recording the locations of the root-expression and of the pasted instance into an ordered link-sequence;

25            25 and, when revising a particular instance of the expression, only the subsequent linked instances are automatically updated and the corresponding results, where mathematical expressions are used, are automatically re-computed, saved and displayed.

5                5. A method for editing graphic, text and mathematical expressions in a file comprising:

- entering expressions into a file;
- marking a root-expression and copying it to a clipboard;
- pasting the clipboard content to other locations via two-way-link;

10              linking the pasted instance to the root-expression;

recording the locations of the root-expression and of the pasted instance into a link-ring;

and, when revising any one particular instance of the expression in the link-ring, every linked instance is automatically updated and the corresponding results, where mathematical expressions are used, are automatically re-computed, saved and displayed.

15              6. A method for editing graphic, text and mathematical expressions in a file comprising:

- entering expressions into a file;
- labeling an expression;

20              referring to the labeled expression in other expressions via the label;

linking the labeled expression to the expression that refers to it;

recording the locations of the labeled expression and of the referring expression into an ordered link-sequence.

25              7. A method as in claim 6, which further comprises the user selecting an expression and viewing the link-sequence associated with it.

8. A method as in claim 7, which further comprises the user selecting a particular linked instance, from the link-sequence, and locating it for examination.

9. A method as in claim 6, which further comprises a method for revising an expression and automatically updating all linked expressions and their corresponding results,

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5 where mathematical expressions are used, and automatically re-computing, saving and displaying, each linked instance.

10. A method for editing graphic, text and mathematical expressions in a file comprising:

10 entering expressions into a file;

10 assigning a variable-name to an expression;

referring to the expression in other expressions via the variable-name;

linking the variable-named expression to the expression that refers to it;

recording the locations of the named expression and the referring expression into an ordered link-sequence.

15 11. A method as in claim 10, which further comprises the user selecting an expression and viewing the link-sequence associated with it.

12. A method as in claim 11, which further comprises the user selecting a particular linked instance, from the link-sequence, and locating it for examination.

20 13. A method as in claim 10, which further comprises a method for revising an expression and automatically updating all linked instances, and their corresponding results, where mathematical expressions are used, and automatically re-computing, saving and displaying, all linked instances.

14. A low-cost, portable device for creating and editing graphic, text, mathematical expressions comprising:

25 means for entering the expressions into a file accessible to the device;

means for storing the expressions;

means for displaying the storage contents;

means for processing the expressions;

means for storing, accessing and managing one or more files;

and, the improvements comprising:

means for revising the expressions in a well-developed editor;

and, means for interactively and automatically updating the storage and displaying the re-computed results, for the mathematical expressions, post-revision.

15. A device as in claim 14, which further comprises means for interactively  
10 and automatically updating the result of an expression, affected by a revision to a different  
expression, the storage and displaying modifications to all expressions and their  
corresponding re-computed results.

16. A device as in claim 14, which further comprises means for linking  
expressions via hyperlink, or straight-link, or paste-link, or a label, or a variable-name.

15 17. A device as in claim 16, which further comprises means for interactively  
and automatically updating the result of an expression, affected by a revision to a different  
expression, the storage and displaying modifications to all expressions and their  
corresponding re-computed results.

18. A low-cost, portable device for creating and editing graphic, text,  
20 mathematical expressions comprising:

means for entering the expressions into a file accessible to the device;

means for storing the expressions;

means for displaying the storage contents;

means for processing the expressions;

25 means for storing, accessing and managing one or more files;

and, the improvements comprising:

means for easily editing the expressions, including long text narratives, in a  
well-developed editor;

means for linking the expressions;

means for recording the links;

means for automatically updating, some or all, the linked instances when one particular instance is revised;

and, means for automatically and interactively updating the storage contents and displaying the new results, for the mathematical expressions, and executing user-provided instructions.

19. A low-cost, portable device for creating and editing graphic, text, mathematical expressions comprising:

means for entering the expressions into a file accessible to the device;

means for storing the expressions;

means for displaying the storage contents;

means for processing the expressions;

and, the improvements comprising:

means for easily editing the expressions, including long text narratives, in a well-developed editor;

means for linking the expressions;

means for recording the links;

means for automatically updating, some or all, the linked instances when one particular instance is revised;

and, means for updating the storage contents and displaying the new results, for the mathematical expressions, and executing user-provided instructions in batch mode.

20. A device as in claim 18, in which the links are recorded into either an ordered link-sequence or into a link-ring.

21. A device as in claim 14, where expressions can be entered by receiving from another device.

5            22. A device as in claim 14, where expressions can be entered via a full-sized  
QWERTY keypad for quick and easy typing.

23. A device as in claim 14, which further comprises a means for typing text  
in between mathematical and graphic expressions.

10          24. A device as in claim 18, which further comprises a means for locating  
various linked expressions for examination.

25. A device as in claim 14, which further comprises:

means for parsing and identifying errors and generating error messages, with  
or without suggestions, on the display means;

15          means for prompting the user for input to resolve the error;

means for accepting the input;

and, means for automatically updating all expressions affected by the user-  
provided input, executing the user instructions, updating the storage, and, displaying the  
modified expressions and the corresponding re-computed results for the mathematical  
expressions.

20          26. A device as in claim 14, which further comprises means for the user to  
supply a result of a mathematical expression whereby the processor compares it to the  
computed result and responds with a 'Correct' / 'Incorrect' response instead of displaying the  
computed result.